

## CLAIMS

### What is claim d is:

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1. A method for providing a user interface for controlling devices that are currently connected to a network, the method comprising the steps of, for one or more of said devices:

(a) obtaining information from devices currently connected to the network, said information including device information;

(b) generating a user interface description in each of said one or more devices based at least on the obtained information, the user interface description in each device including at least one reference associated with the device information of each of said devices currently connected to the network; and

(c) displaying one or more user interfaces each based on one of said one or more user interface descriptions, on one or more devices connected to the network capable of displaying a user interface, for user control of said devices that are currently connected to the network.

2. The method of claim 1, wherein the step of displaying each user interface further includes the steps of:

(a) using each reference in the corresponding user interface description to access the associated information in each device;

(b) generating the user interface including device data corresponding to each device using the accessed information in each device; and

(c) displaying the user interface on said device capable of displaying a user interface.

3. The method of claim 1, wherein the step of generating a user interface description further comprises the steps of: associating a hyper-text link with the device information of each of said devices currently connected to the network.

4. The method of claim 1, wherein said information in each device comprises an HTML page contained in that device.

5. The method of claim 1, wherein the step of displaying the user interface further comprises the steps of: displaying the user interface on a browser on said device capable of displaying a user interface.

6. The method of claim 1 further comprising the steps of:  
connecting at least one client device to the network capable of displaying a user interface; and  
displaying a user interface on the client device using the references in a user interface description, for controlling devices that are currently connected to the network.

7. The method of claim 1 wherein said at least one device is capable of displaying a user interface, and further comprising the steps of: displaying a user interface on said at least one device using the references in the user interface description, for controlling devices that are currently connected to the network.

8. The method of claim 1, wherein the step (b) further includes the steps of generating each user interface description such that the reference in that user interface description provides access to at least the information in each corresponding device.

9. The method of claim 1, wherein the step (b) further includes the steps of generating each user interface description such that the user interface description further includes device data corresponding to each device based on the information obtained from each device.

10. The method of claim 1, wherein the device information in each device includes device identification information.

11. The method of claim 1, wherein the device information in each device includes a user control interface description for user interaction with the device.

12. The method of claim 11, wherein the step (b) further includes the steps of generating each user interface description such that each reference in that user interface description is to at least the user control interface description in each corresponding device.

13. The method of claim 11, wherein the step (b) further includes the steps of generating each user interface description wherein that user interface description further includes device data corresponding to each device based on the information obtained from each device, the device data providing reference to the user control interface description in each device.

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14. A network system for performing a service, comprising:  
a physical layer, wherein the physical layer provides a communication medium than can be used by devices to communicate with each other;  
one or more devices connected to the physical layer, each device storing information including device information;  
an agent in each of one or more devices, adapted for:

(a) obtaining information from devices currently connected to the network, said information including device information;

10 <sup>A4</sup> (b) generating a user interface description in each of said one or more devices based at least on the obtained information, the user interface description in each device including at least one reference associated with the device information of each of said devices currently connected to the network; and

15 (c) displaying one or more user interfaces each based on one of said one or more user interface descriptions, on one or more devices connected to the network capable of displaying a user interface, for user control of said devices that are currently connected to the network.

15. The system of claim 14, wherein each agent is further adapted for displaying each user interface by:

(a) using each reference in the corresponding user interface description to access the associated information in each device;

5 (b) generating the user interface including device data corresponding to each device using the accessed information in each device; and

(c) displaying the user interface on said device capable of displaying a user interface.

16. The system of claim 14, wherein each agent is further adapted for generating a user interface description by: associating a hyper-text link with the device information of each of said devices currently connected to the network.

17. The system of claim 14, wherein said information in each device comprises an HTML page contained in that device.

18. The system of claim 14, wherein each agent is further adapted for displaying a user interface by: displaying the user interface on a browser on said device capable of displaying a user interface.

19. The method of claim 14, further comprising at least one client device connected to the network capable of displaying a user interface; and one or more agents are further adapted for displaying a user interface on the client device using the references in a corresponding user interface description, for controlling devices that are currently connected to the network.

20. The system of claim 14, wherein said at least one device is capable of displaying a user interface, and one or more agents are further adapted for: displaying a user interface on said at least one device using the references in a corresponding user interface description, for controlling devices that are currently connected to the network.

21. The system of claim 14, wherein each agent is further adapted for generating each user interface description such that the reference in that user interface description provides access to at least the information in each corresponding device.

22. The system of claim 14, wherein each agent the step (b) further adapted for generating each user interface description such that the user interface description further includes device data corresponding to each device based on the information obtained from each device.

23. The system of claim 14, wherein the device information in each device includes device identification information.

24. The system of claim 14, wherein the device information in each device includes a user control interface description for user interaction with the device.

25. The system of claim 24, wherein each agent is further adapted for generating each user interface description such that each reference in that user interface description is to at least the user control interface description in each corresponding device.

26. The system of claim 24, wherein each agent is further adapted for generating each user interface description wherein that user interface description further includes device data corresponding to each device based on the information obtained from each device, the device data providing reference to the user control  
5 interface description in each device.

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27. A network system for performing a service, comprising:  
a physical layer, wherein the physical layer provides a communication  
medium than can be used by devices to communicate with each other;  
multiple devices connected to the physical layer, one or more of said  
5 multiple devices storing information including device information, and a plurality of said  
multiple devices each including an agent adapted for:  
(a) obtaining information from devices currently connected to  
the network, said information including device information;  
(b) generating a user interface description in each of said one or  
10 more devices based at least on the obtained information, the user  
interface description in each device including at least one reference

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associated with the device information of each of said devices currently connected to the network; and

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(c) displaying one or more user interfaces each based on one of said one or more user interface descriptions, on one or more devices connected to the network capable of displaying a user interface, for user control of said devices that are currently connected to the network.

28. The system of claim 27, wherein each agent is further adapted for displaying each user interface by:

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- (a) using each reference in the corresponding user interface description to access the associated information in each device;
  - (b) generating the user interface including device data corresponding to each device using the accessed information in each device; and
  - (c) displaying the user interface on said device capable of displaying a user interface.

29. The system of claim 27, wherein each agent is further adapted for generating a user interface description by: associating a hyper-text link with the device information of each of said devices currently connected to the network.

30. The system of claim 27, wherein said information in each device comprises an HTML page contained in that device.

31. The system of claim 27, wherein each agent is further adapted for displaying a user interface by: displaying the user interface on a browser on said device capable of displaying a user interface.

32. The method of claim 27, further comprising at least one client device connected to the network capable of displaying a user interface; and

one or more agents are further adapted for displaying a user interface on the client device using the references in a corresponding user interface description, for controlling devices that are currently connected to the network.

33. The system of claim 27, wherein said at least one device is capable of displaying a user interface, and one or more agents are further adapted for: displaying a user interface on said at least one device using the references in a corresponding user interface description, for controlling devices that are currently connected to the network.

34. The system of claim 27, wherein each agent is further adapted for generating each user interface description such that the reference in that user interface description provides access to at least the information in each corresponding device.

35. The system of claim 27, wherein each agent the step (b) further adapted for generating each user interface description such that the user interface description further includes device data corresponding to each device based on the information obtained from each device.

36. The system of claim 27, wherein the device information in each device includes device identification information.

37. The system of claim 27, wherein the device information in each device includes a user control interface description for user interaction with the device.



38. The system of claim 37, wherein each agent is further adapted for generating each user interface description such that each reference in that user interface description is to at least the user control interface description in each corresponding device.

39. The system of claim 37, wherein each agent is further adapted for generating each user interface description wherein that user interface description further includes device data corresponding to each device based on the information obtained from each device, the device data providing reference to the user control  
5 interface description in each device.

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